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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/054,864	04/03/1998	CRAIG R. FRINK	AO521/7145(P	3189

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EXAMINER	
TRAN, HAI V	

ART UNIT	PAPER NUMBER
2623	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/054,864	FRINK ET AL.	
	Examiner	Art Unit	
	Hai Tran	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5 and 19-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5 and 19-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/03/2006 has been entered.

Response to Arguments

Applicant's arguments filed 01/03/2006 have been fully considered but they are not persuasive.

Applicant argues, "Contrary to the Office Action, this section of Aoki does not describe frame-by-frame control over the 1394 bus 11, but instead describes operations by the IDE controller 71 in the conversion device 2 to write data on the HDD 4 over the IDE bus 12. Thus, it can be seen that the editor 1 in Aoki sends either a PLAY command or a RECORD command over the 1394 bus to the conversion device 2, which in turn causes the IDE controller in the conversion device 2 to communicate with the HDD4 to read or write data. The transfer of video data over the 1394 bus is done using standard 1394 isochronous data packets. See Aoki, Col. 5, lines 10-11 and Col. 6, lines 18-20. Thus Aoki does not teach using "frame by frame flow control" over high speed serial bus, as recited in independent claims 5, 24, 30, 36 and 43."

In response, the Examiner respectfully disagrees with Applicant and cites Col. 6, lines 15-20, "The LINK 52 reads out the image data from the FIFO memory 61 on a ***frame-by-frame basis***, packetizes the read-out image data, ***and output resulting packets to the PHY 51. The PHY 51 transmits those packets via the 1394 Bus 11 as isochronous packets, whereby the packets are supplied to the editor 1***." Thus, Aoki teaches using "frame by frame flow control" over high-speed serial bus.

Claim 44, Applicant further argues, "the Office Action relies on a description of a packet sent by a transmission source when that source obtain bus control under an arbitration sequence under IEEE-1394. According to the Office Action, such a source sends a packet including 'data prefix that may contain speed information.' No reference is cited for such an assertion and a citation to such a reference is respectfully requested to assist in completing the record."

In response, the Examiner respectfully disagrees with Applicant because in the Office Action, the Examiner states in the previous Office Action that the claimed features of claim 44 is inherently met by Aoki because Aoki 's system discloses the use of IEEE-1394 standard in which IEEE-1394 standard teaches the claimed features. As such, the Examiner does not need to cite/provide any references regarding the inherency feature of the IEEE-1394 standard, unless Applicant proves that claimed features of claim 44 does not teach by IEEE-1394 standard. However, to entertain Applicant the Examiner provides copies "1394 High performance Serial Bus: The digital interface for ATV" by Adam J. Kunzman (see § Device Control) and IEEE std 1394-

1995 (CSR, asynchronous subaction, pages 19-30; Asynchronous packets, pages 147-153; pages 164-167; page 170-173; CSR pages 209-227; page 241-242; data prefix pages 312-319; J.3 Operation, pages 343-351).

Claims 19-20, 22, 25-26, 28, 31-32, 34, 37-38, 40, 42 and 45-48, Applicant argues (claim 42), "The claim language of a 'boundary signal' does not read on Paik... The plain language of the claim makes it clear that the boundary signal is a data packet indicates whether that data packet includes the last component of the requested video frame. In the portion of Paik cited in the Office Action no such 'boundary signal' is provided.

In response, the Examiner respectfully disagrees with Applicant because Paik discloses "...each lines of **a video frame** is transmitted as *a sequence of macroblock packets*...Therefore, the macroblock packets are transmitted asynchronously with the beginning of one macroblock packet occurring immediately after the end of the previous one....The macroblock format is illustrated in Fig. 4...The ***1st macroblock of each subframe*** is an exception, in which no video data is transmitted. ***The 1st macroblock of each subframe*** is used to identify whether the macroblock **is the 1st of a new frame**..." (see Col. 8, lines 43-65+). Paik further discloses the FID is the frame ID bit sent at the beginning of each macroblock. FID is 1 if the macroblock is the 1st in new frame and o otherwise (see Col. 9, lines 10-16). In view of that, Paik uses 1st macroblock of each subframe to identify whether the receiving macroblock is the 1st in a new frame with FID =1 in which the system distinctively identify the beginning of a new

frame and it does not include the last component of the requested/previous frame. Thus, 1st macroblock of each subframe with FID=1 is a boundary signal.

Applicant further argues the term "component" is defined at page 7, lines 9-10 of the present application: 'a component is a portion of the data being transferred, such as a luminance component of a pixel of video data'.

In response, the Examiner respectfully disagrees with Applicant because Paik discloses components (Fig. 1), as macroblock, or superblock, or block, wherein each superblock 106 comprises an image area that covers four luminance blocks 108 in the horizontal direction and two luminance block 108 in the vertical direction and each luminance blocks 108 comprise pixels (Col. 7, lines 25-31). As such, Paik meets and encompasses Applicant' s limitation "a component". It is noted that although the claims are interpreted in light of the specification, limitations from the specification, i.e., 'a component is a portion of the data being transferred, such as a luminance component of a pixel of video data' are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claims 19-20, 25-26, 31-32, 37-38 and 45-48, Applicant argues, "the portion of Paik Fig.2 and 3; Col. 7, lines 14-45, Col.8, lines 43-56, cited in the Office Action fail to teach anything about the precision (i.e., the number of bits used to represent) of a component being greater than a byte as claimed. For example, Paik does not describe

handling video in which components are presented, for example, by 10-bits or 12-bits. As noted at Col. 7, lines 14-45 of Paik, the precision of the video data is one byte."

In response, the Examiner respectfully disagrees with Applicant because limitation "component" is met by Paik' s macroblock or superblock, or block. Applicant's component does not limit to only "a pixel" as argued. In this instant, component is either macroblock 104 or superblock 106 or block 108, and since Paik discloses for example block 108 comprise 64 pixels of 8bits/pixel (see Fig. 1). Therefore, Paik at least describes a component, i.e., block 108, is a portion of the data being transferred and has a precision greater than a byte! At least in this instant the component block 108 is 64 bytes and greater than a byte! (Col. 7, lines 25-31).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 5-18, 21, 23-24, 27, 29-30, 33, 35-36, 39, 41 and 43-44 are rejected under 35 U.S.C. 102(e) as being unpatentable by Aoki et al. (US 6279061).

Claims 5 and 43, Aoki disclose a host device (device 2) for transferring data to a video processing device (device 1; editor PC) over a high-speed serial bus

using frame by frame (Fig. 1; Col. 2, lines 20-40; Col. 5, lines 38-45) control comprising:

A memory (53, 61, 4);

An input 51 for receiving request packets from the video processing device (device 1; editor PC) over the high-speed serial bus 11, wherein each request packet indicates a request from the video processing device (device 1; editor PC; see IEEE-1394 standard in which each request/data packet of Fig. 2 includes a SID) to transfer video data defining a video frame (Col. 2, lines 45-60; and Col.7, lines 15-23), and wherein each request packet includes a stream identifier (Fig. 2 and 4; editing and playback in an MPEG digital system conforms to MPEG-2 encode data packet with MPEG transport packet PIDs); and

An output for sending 51, in response to a request packet, a plurality of data packets including the video data defining the requested video frame from the memory (53, 61, 4) to the video processing device (device 1; editor PC) over the high speed serial bus (Col. 7, lines 40-65), wherein each data packet includes the stream identifier.

Claims 21, Aoki further discloses wherein at least one of the data packets in the plurality of data packets includes a target field indicating a device to which the video processing device is directed to transfer the video data (see Fig. 2, el. Destination_ID).

Claim 23, Aoki further discloses wherein the host device further sends through the output, a data packet including command field indicating a command to the video processing device (CTS of Asynchronous packet; Fig. 2 and 4).

Claim 24, Aoki disclose a video processing device (device 1; editor PC) for transferring data from a host device (device 2) over a high-speed serial bus using frame by frame (Fig. 1; Col. 2, lines 20-40; Col. 5, lines 38-45) control comprising:

A memory (53, 61, 4);

An output (not shown, from the editor PC device 1; see IEEE-1394 standard in which each request/data packet of Fig. 2 includes a SID) for sending request packets over the high-speed serial bus 11 to request to transfer of video data (Col. 2, lines 45-60; and Col.7, lines 15-23), and wherein each request packet includes a stream identifier (Fig. 2 and 4; editing and playback in an MPEG digital system conforms to MPEG-2 encode data packet with MPEG transport packet PIDs); and

An input (not shown, editor PC device 1) for receiving a plurality of data packets from the host device (device 2) over the high speed serial bus, in response to each request packet (Col. 7, lines 40-65), wherein each data packet includes the video data defining the video frame requested by the request packet, and for transferring the video data to the memory (reads on the PC1 's receives the requested and buffered in the PC1 for editing purpose).

Claim 27, Aoki further discloses wherein at least one of the data packets in the plurality of data packets includes a target field indicating a device to which the video processing device is directed to transfer the video data (see Fig. 2, el. Destination_ID).

Claim 29, Aoki further discloses wherein the input 91 further receives a data packet including command field indicating a command to the video processing device (CTS of Asynchronous packet; Fig. 2 and 4).

Regarding method claim 30 is analyzed with respect to apparatus claim 24.

Regarding method claim 33 is analyzed with respect to apparatus claim 27.

Regarding method claim 35 is analyzed with respect to apparatus claim 29

Regarding method claim 36 is analyzed with respect to apparatus claim 5.

Regarding method claim 39 is analyzed with respect to apparatus claim 21.

Regarding method claim 41 is analyzed with respect to apparatus claim 23.

Regarding claim 44, "wherein the request packets includes a packet rate field that specifies a packet rate at which the host device is to send data to the video processing" is further inherently met by Aoki in which Aoki discloses the use of IEEE-1394 standard. Accordingly, IEEE-1394 standard inherently teaches that an arbitration sequence occurs when a node is ready to transmit a packet of information to a destination node. The source node requests its physical layer to gain control of the bus. When bus control has been obtained for an asynchronous subaction, the

source node sends the following packet information: a data prefix that may contain speed information; the source and destination address; a transaction code; a transaction label; a retry code; a data quadlet or data block; a header CRC character; a data block CRC character, if applicable; and a packet termination code.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 19-20, 22, 25-26, 28, 31-32, 34, 37-38, 40, 42, and 45-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki et al. (US 6279061) in view of Paik et al. (US 5241382).

Claims 19, 45 and 47, Aoki discloses video data is packed into bytes into the plurality of packets because the length of the source packet of the 1394 AV/C protocol is a fixed length specific to each equipment in which each byte is defined as 8 bits, 16 bits or 32 bits, and the source packet is divided into plurality of data blocks, i.e., 1, 2, 4, or 8 data blocks, which are sequentially transmitted as a plurality of isochronous packets.

Aoki does not clearly disclose, "wherein a component of the video data has a precision greater than a byte";

Paik discloses components (Fig. 1), as macroblock, or superblock, or block, wherein each superblock 106 comprises an image area that covers four luminance blocks 108 in the horizontal direction and two luminance block 108 in the vertical direction and each luminance blocks 108 comprise pixels (Col. 7, lines 25-31) in which block 108 has a precision greater than a byte (a component, i.e., block 108, is a portion of the data being transferred and has a precision greater than a byte because component block 108 is 64 bytes and is greater than a byte! Col. 7, lines 15-35) and wherein the data representing the component of the video data is packed into bytes in the plurality of packets (Col. 8, lines 48-51). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Aoki to encode video data, as taught by Paik, so to provide a data format that includes various data fields that enable the receiver to avoid unnecessary processing (Col. 3, lines 49-65+).

Claims 20, 46 and 48, Paik further discloses further discloses wherein the plurality of packets includes a component size field indicating a number of bits per component (DLEN, Col. 5, lines 27-28).

Claim 22, Aoki does not clearly disclose data packet includes a boundary signal indicating whether the data packet ends with a last component of the requested video frame;

Paik uses 1st macroblock of each subframe to identify whether the receiving macroblock is the 1st in a new frame with FID =1 in which the system distinctively identify the beginning of a new frame and it does not include the last component of the requested/previous frame. Thus, 1st macroblock of each subframe with FID=1 is a boundary signal (see Col. 9, lines 10-16 and Fig. 2 and 3; Col. 7, lines 15-45 and Col. 8, lines 43-56). Thus, Piak meets "wherein a data packet in the plurality of data packets includes a boundary signal indicating whether the data packet includes a last component of the video data defining the requested video frame". Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Aoki to encode video data, as taught by Paik, so to provide a data format that includes various data fields that enable the receiver to avoid unnecessary processing (Col. 3, lines 49-65+).

Claim 25, Aoki discloses video data is packed into bytes into the plurality of packets because the length of the source packet of the 1394 AV/C protocol is a fixed length specific to each equipment in which each byte is defined as 8 bits, 16 bits or 32 bits, and the source packet is divided into plurality of data blocks, i.e., 1, 2, 4, or 8 data blocks, which are sequentially transmitted as a plurality of isochronous packets.

Aoki does not clearly disclose, "wherein a component of the video data has a precision greater than a byte";

Paik discloses components (Fig. 1), as macroblock, or superblock, or block, wherein each superblock 106 comprises an image area that covers four luminance

blocks 108 in the horizontal direction and two luminance block 108 in the vertical direction and each luminance blocks 108 comprise pixels (Col. 7, lines 25-31) in which block 108 has a precision greater than a byte (a component, i.e., block 108, is a portion of the data being transferred and has a precision greater than a byte because component block 108 is 64 bytes and is greater than a byte! Col. 7, lines 15-35) and wherein the data representing the component of the video data is packed into bytes in the plurality of packets (Col. 8, lines 48-51). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Aoki to encode video data, as taught by Paik, so to provide a data format that includes various data fields that enable the receiver to avoid unnecessary processing (Col. 3, lines 49-65+).

Claim 26, Paik further discloses further discloses wherein the plurality of packets includes a component size field indicating a number of bits per component (DLEN, Col. 5, lines 27-28).

Claim 28, Aoki does not clearly disclose, "wherein a data packet in the plurality of data packets includes a boundary signal indicating whether the data packet includes a last component of the video data defining the requested video frame".

Paik uses 1st macroblock of each subframe to identify whether the receiving macroblock is the 1st in a new frame with FID =1 in which the system distinctively

identifies the beginning of a new frame and it does not include the last component of the requested/previous frame. Thus, 1st macroblock of each subframe with FID=1 is a boundary signal (see Col. 9, lines 10-16 and Fig. 2 and 3; Col. 7, lines 15-45 and Col. 8, lines 43-56). Thus, Paik meets "wherein a data packet in the plurality of data packets includes a boundary signal indicating whether the data packet includes a last component of the video data defining the requested video frame". Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Aoki to encode video data, as taught by Paik, so to provide a data format that includes various data fields that enable the receiver to avoid unnecessary processing (Col. 3, lines 49-65+).

Regarding method claim 31 is analyzed with respect to apparatus claim 25.

Regarding method claim 32 is analyzed with respect to apparatus claim 26.

Regarding method claim 34 is analyzed with respect to apparatus claim 28.

Regarding method claim 37 is analyzed with respect to apparatus claim 19.

Regarding method claim 38 is analyzed with respect to apparatus claim 20.

Regarding method claim 40 is analyzed with respect to apparatus claim 22.

Claim 42, in view of the above analysis of claim 5, Aoki does not clearly disclose data packet includes a boundary signal indicating whether the data packet ends with a last component of the requested video frame;

Paik uses 1st macroblock of each subframe to identify whether the receiving macroblock is the 1st in a new frame with FID =1 in which the system distinctively identify the beginning of a new frame and it does not include the last component of the requested/previous frame. Thus, 1st macroblock of each subframe with FID=1 is a boundary signal (see Col. 9, lines 10-16 and Fig. 2 and 3; Col. 7, lines 15-45 and Col. 8, lines 43-56). Thus, Paik meets "wherein a data packet in the plurality of data packets includes a boundary signal indicating whether the data packet includes a last component of the video data defining the requested video frame". Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Aoki to encode video data, as taught by Paik, so to provide a data format that includes various data fields that enable the receiver to avoid unnecessary processing (Col. 3, lines 49-65+).

Conclusion

All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Tran whose telephone number is (571) 272-7305. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher C. Grant can be reached on (571) 272-7294. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HT:ht
03/16/2006

HAI TRAN
PRIMARY EXAMINER